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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,835	07/17/2003	David Chinner	062986.0340	8774

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EXAMINER
WAI, ERIC CHARLES

ART UNIT	PAPER NUMBER
2195	

NOTIFICATION DATE	DELIVERY MODE
11/06/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/620,835	CHINNER ET AL.
	Examiner	Art Unit	
	ERIC C. WAI	2195	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>24 August 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-25</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-25 are presented for examination.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed

on 08/24/2009 has been entered.

Claim Rejections - 35 USC § 103

        The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

in Krantz et al (US Pat No., 7,284,062), view of Karp et al. (US Pat No. 7,032,222).

4.   Regarding claim 1, Krantz teaches a method of processing requests to access computing resources, comprising:

        restricting, without totally suspending, processing of resource acquisition request (col 6 lines 19-22);

        wherein the resource acquisition requests include local resource acquisition requests generated by at least one local filesystem for access to local storage and network resource acquisition requests generated by at least one network filesystem for access to remote data via a network (col 6 lines 15-19, wherein access to resources occur for a first and second network; col 6 lines 19-22, wherein the server is located on the first network, i.e. local storage, and allows access to a second network, i.e. remote data);

        wherein restricting processing of resource acquisition requests applies to network resource acquisition request and not local resource acquisition requests (col 6 lines 15-22, wherein access to the first network is authorized, and access to the second network is not).

5.   Krantz fails to teach restricting, without totally suspending processing of resource acquisition requests when a number of resources in use is within a first predetermined amount of a maximum number of available resources

6.   Karp teaches a method of processing requests to access computing resources wherein some requests are allowed when they fall below a user's hard limit, but denied if granting the requests would result in exceeding the high watermark, in other words certain requests are allowed to proceed if resource use is between the soft limit and the

hard limit, i.e. within a first predetermined amount (Fig 2, col 1 lines 52-67, col 4 lines 9-29). Karp further teaches that the hard limit is a resource limit for a single user and would inherently be lower than the maximum number of available resources since there are multiple users (col 3 lines 33-43).

7.   It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Krantz to include the restricting method of Karp. One would be motivated by the desire to include an efficient means of allocating a shared communication link as taught by Karp (col 1 lines 15-21).

8.   Regarding claim 14, it is the computer readable medium claim of claim 1 above. Therefore, it is rejected for the same reasons as claim 1 above.

9.   Claims 2-13, and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Krantz et al (US Pat No., 7,284,062), view of Karp et al. (US Pat No. 7,032,222),as applied to claims 1 and 14 above, further in view of Chuah et al. (US Pat No. 6,515,994).

10.   Regarding claim 2, Krantz and Karp do not teach that restricting processing of resource acquisition requests applies only to network resource acquisition requests performing asynchronous writes.

11.   Chuah teaches that asynchronous access to computer files located on a remote

file store can consume large amounts of network resources (col 3 lines 7-21, wherein

network resource consumption grows linearly with the number of clients).

12.   While Chuah is directed to resolving issues of network clients' resource

consumption growing linearly by using multicast switching and joining of destinations to

a transmission already in progress (abstract and col 4 lines 4-6), it would have been

obvious to one of ordinary skill in the art at the time of the invention to try modifying

Krantz and Karp to restrict asynchronous transactions in network resource acquisition

requests. One would be motivated by the desire to realize the predictable result of

reducing the amount of network resources required to service a number clients as

taught by Chuah (col 3 lines 18-21).

13.   Regarding claim 3, Karp further teaches wherein the maximum number of

available resources represents the available resources for the network resource

acquisition requests and in addition, a local reserved number of the resources are

available for the local resource acquisition requests (col 3 lines 3-4), and

        wherein said restricting applies an enforcement limit, smaller than the maximum

number of available resources by the first predetermined amount, to the network

resource acquisition requests (col 3 lines 16-17, wherein a soft limit is applied to each

user).

14.   Regarding claim 4, Karp teaches wherein each network file system has a soft

limit for executing the network resource acquisition requests (col 3 lines 16-17, wherein

a soft limit is applied to each user).

15.   However, Karp does not teach holding a first network resource acquisition

request in a first file system queue if execution of the first network resource acquisition

request would cause the enforcement limit to be exceeded and the soft limit for a first

network file system that generated the first network resource acquisition request has

been exceeded.

16.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, to place the network resource acquisition in a file system queue. One would

be motivated by the desire to store pending requests that have not yet been granted.

17.   Regarding claim 5, Krantz, Karp, and Chuah teaches does not explicitly teach

that said holding of the first resource acquisition request and any subsequently received

resource acquisition requests for the first network file system is continued until at least

one of: the executing resource acquisition requests for the first network file system are

below the soft limit, and the first resource acquisition request has been held on the first

file system queue longer than a predetermined time period.

18.   Karp does teach the use of a hard limit for each user that enables users to

exceed their soft limited under predetermined conditions (col 3 lines 33-35).

19.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, that the next queued request would be processed once an available resource

is free. It also would have been obvious to process a queued request that has been held longer than a predetermined time period. One would have been motivated by the desire to increase the efficiency of the system by processing requests if there are available resources as indicated by Karp (col 3 lines 35-38).

20.   Regarding claim 6, Krantz, Karp, and Chuah do not teach that upon completion of execution of each of the resource acquisition requests, initiating execution of a longest held resource acquisition request in a corresponding network filesystem queue if the corresponding network filesystem queue is not empty.

21.   It would have been obvious to one of ordinary skill in the art at the time of the invention, that the next queued request would be processed once an available resource is free. One would be motivated by the desire to process the requests in a FIFO manner.

22.   Regarding claim 7, Karp teaches flushing the network resource acquisition requests related to a new network resource acquisition request if the maximum number of available resources are in use when the new network resource acquisition request is received (col 1 lines 45-48, wherein new users are locked out when all the resources are already allocated).

23.   Regarding claim 8, Krantz, Karp, and Chuah do not teach holding the new network resource acquisition request and any subsequently received network resource

acquisition requests in a global wait queue until the number of resources in use is less than the maximum number of available resources.

24.   It would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize a global wait queue. One would be motivated by the desire to keep track of pending requests.

25.   Regarding claim 9, Krantz, Karp, and Chuah do not explicitly teach repeating said flushing of the network resource acquisition requests, until the number of resources in use is less than the maximum number of available resources by at least the second predetermined amount.

26.   Karp teaches that new requests would be locked out when all the resources are already allocated (col 1 lines 45-48). It would have been obvious to one of ordinary skill in the art at the time of the invention, to repeatedly flush or prohibit new requests from processing if the requisite resources were not available.

27.   Regarding claim 10, Krantz, Karp, and Chuah do not teach that upon completion of execution of each of the resource acquisition requests, releasing the new and any subsequently received network resource acquisition requests in the global wait queue, if the number of resources in use is less than the maximum number of available resources by at least the second predetermined amount.

28.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, that any queued requests would be processed if the required resources were

available.

29.   Regarding claim 11, Krantz, Karp, and Chuah do not explicitly teach that said

initiating execution of the longest held resource acquisition request in the corresponding

network filesystem queue is not performed until the executing resource acquisition

requests generated by a corresponding network filesystem are below the soft limit by a

third predetermined amount.

30.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, that the system would only allow the executing of the request if there was

some extra capability of the system to handle the request. One would be motivated by

the desire to not overload the system.

31.   Regarding claim 12, Krantz, Karp, and Chuah do not teach that the computing

resources are handles providing access to data storage for the local and network file

systems.

32.   Karp teaches a generalized method for handling resource requests. It would

have been obvious to one of ordinary skill in the art at the time of the invention, to

include handles for providing access to data storage for the local and network file

systems. One would be motivated by the desire to extend the teachings of Karp.

33.   Regarding claim 13, Karp teaches that at least one of the maximum number of available resources, the enforcement limit, the soft limit and the first, second and third predetermined amounts are configurable by a user (col 3 lines 22-23).

34.   Regarding claims 15-24, they are the computer readable medium and system claims of claims 1-13 above. Therefore, they are rejected for the same reasons as claims 1-13 above.

35.   Regarding claim 25, Karp teaches detecting that an enforcement limit has been reached, the enforcement limit being smaller than the maximum number of available resources by the first predetermined amount (col 4 lines 23-29, wherein the test against the high watermark is checked); and

       denying a new network resource acquisition request when the enforcement limit has been reached and at least a second predetermined number of the resource acquisition requests associated with the network filesystem are being processed (col 4 lines 30-36; wherein the request is denied based on the high watermark being exceeded and the resource usage is greater than the soft limit).

36.   Karp does not explicitly teach placing a new network resource acquisition request in an execution queue associated with a network filesystem instead of denying the network resource acquisition request. However, it would have been obvious to one of ordinary skill in the art to modify Karp to place the request in a queue. One would be

motivated by the desire to store the request until the system can provide the necessary

resources for processing.

Response to Arguments

37.   Applicant's arguments with respect to claims 1-25 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

38.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012.

The examiner can normally be reached on Mon-Thurs, 8am-5pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/   /Eric C Wai/
Supervisory Patent Examiner, Art Unit 2195   Examiner, Art Unit 2195